

Attachment 3 Work Plan

14th Street Storm Water Collection and Integration Basin Project

Goals and Objectives

The City of Upland's proposed project is shovel-ready. It employs an integrated, regional approach to enhance water quality, increases aquifer recharge, and improves flood protection, directly benefiting the City as well as other water producers locally in the Santa Ana watershed.

Over the past 75 years, there has been a considerable amount of development in the City and open land has significantly decreased. This change magnified runoff flows, small to medium storm events have caused wide spread flooding along residential and arterial streets. The City has been focusing on this drainage problem.

As a result, the City expanded the Upland Basin situated in the southwest corner of the City to provide flood protection and recharge of rain water. It was constructed for a 100-year storm, back to back events, with approximately 200 ac-ft of "dead" storage. It is capable of more recharge than it is currently being utilized for. The storm drain system that captures and conveys flows to the Upland Basin needs to be expanded to maximize its capacity usage and, most importantly, to provide adequate flood protection to the west side of the City.

After much study, the 14th Street Storm Water Collection/Integration Basin project is identified as critical to achieve the above objective. Due to its up-gradient position, in serving with the Upland Basin as a "collecting" basin or hub, it will relieve the "bottle neck" in the City's drainage system. Based on rainfall data of the last 10 years, it is estimated that 400 ac-ft/year to be captured from the (flooded streets) and conveyed to the 14th St. basin, which will serve as a recharging point upstream of the Upland Basin while collecting and conveying "overflow" rainwater to the Upland Basin.

If constructed, the 14th St. basin will alleviate the flooding along Mountain Ave. (map enclosed) and relieve hydraulic capacity of the 8th St. basin in the southeast corner of the City which captures the existing Mountain Ave. runoff and serves the east side.

The proposed project is critical not only to the City's drainage management, but also to the region's watershed. To name a few, flood protection, recharge, water quality improvement, mitigation of urban runoff pollution, expansion of local supplies, imported water usage reduction, and protection of loss of lives and properties due to severe storms.

Purpose and Need

The proposed 14th St. basin is an essential facility to providing flood control and community flood protection measures to the City.

Additionally, due to high quality of storm water captured in the upper basin, the recharge will enhance the groundwater supply and water quality, thus mitigating the salt-laden groundwater issue in the lower parts of the watershed. Upon completion, the project will complement the City's comprehensive approach to water resources management goals, specifically:

- First and foremost, providing flood and protection and alleviating flood damages;
- Improving water reliability and reducing imported water dependency;
- Improving water quality by capturing/recharging high quality runoff in upper basin;
- Managing rainfall by reserving it as water supply;
- Reducing greenhouse gas by reducing energy required to transport imported water;
- Providing a cost effective means to increase supply;

- Providing future expandability by allowing future recycled water recharge;
- Preventing run-off pollutants harmful to downstream agencies' supplies or wetland;
- Providing a means for natural groundwater treatment; and
- Efficiently integrating water management measures with land use.

Project Specifics

The proposed project's estimated cost is approximately \$5.5 million, consisting of constructing:

- A 23 ac-ft retention basin to collect upstream storm water for flood control, water quality treatment and recharge; and
- Approximately 4,800 ft of storm water pipelines, ranging from 24 -inch to 42-inch, to connect the proposed basin to existing storm drains and nearby pits, creating a system capturing and conveying storm water in a controlled fashion.

The project offers flexibility in water resource management (flood control and recharge). Additionally, green space can be added to the existing nearby park to function as a bioswale. It will provide ample opportunities for public water conservation education.

Work Completed by the City

The City has advanced this proposed project by having the below completed:

- Hydrological study identifying the estimated rainfall to be captured by the proposed project;
- Water Quality/Facility Study of the proposed 14th St. basin;
- Site geotechnical investigation study;
- Land acquisition/verification (project site belonging to the City);
- Design of the 14th St. basin and required storm drain lines;
- Environmental clearance (CEQA/NEPA) documents; and
- Completion of construction plans and specifications.

Project Timing and Phasing

The proposed project is a standalone project that will be fully implemented after its completion without subsequent project. It will be operated in conjunction with the existing Upland Basin to fully capture rainstorm for recharge.

The City proposes to complete it within 5 years; however, based on experience, the City staff confidently can complete it within 3 years. If awarded by the Proposition 1E Grant, the project will be executed by the City Capital Improvement Project group who comprises of full-time engineers performing construction contract work for the City. The next steps will be:

- Advertising project and selecting contractor;
- Awarding project by the City Council and issuing notice to proceed; and
- Proceeding to construction phase.

Integrated Elements of Projects

The proposed project will assist in decreasing the amount of flooding that occurs along the northwest section of the city as well as alleviating the existing storm drain systems and basins downstream of the project.

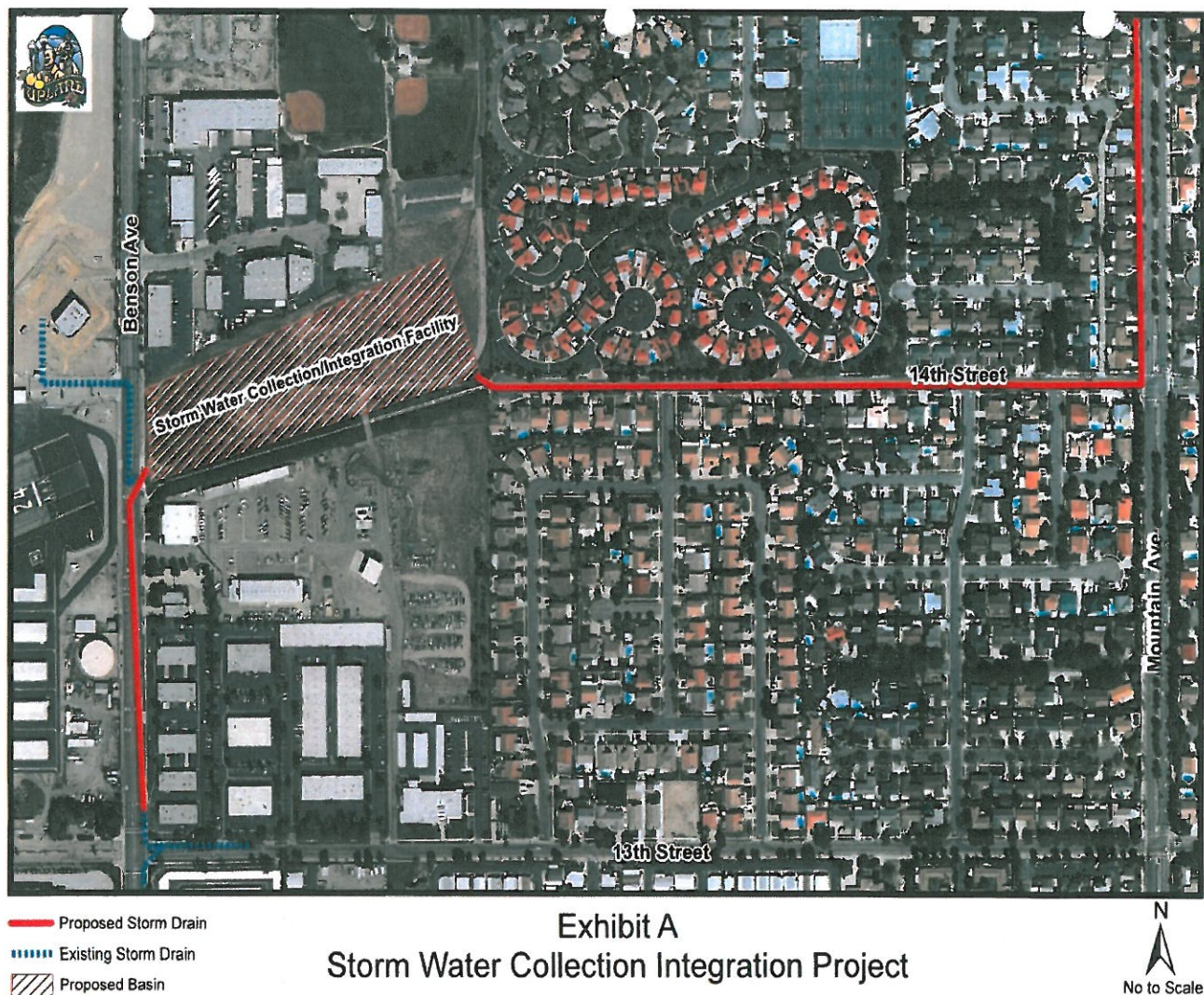
Currently, the existing storm drain system along Mountain Ave. just north of the rail road tracks captures and conveys storm runoff to the 8th St. Basin situated in the southeast corner of the City. The system was design and constructed to capture and convey 25 year storm

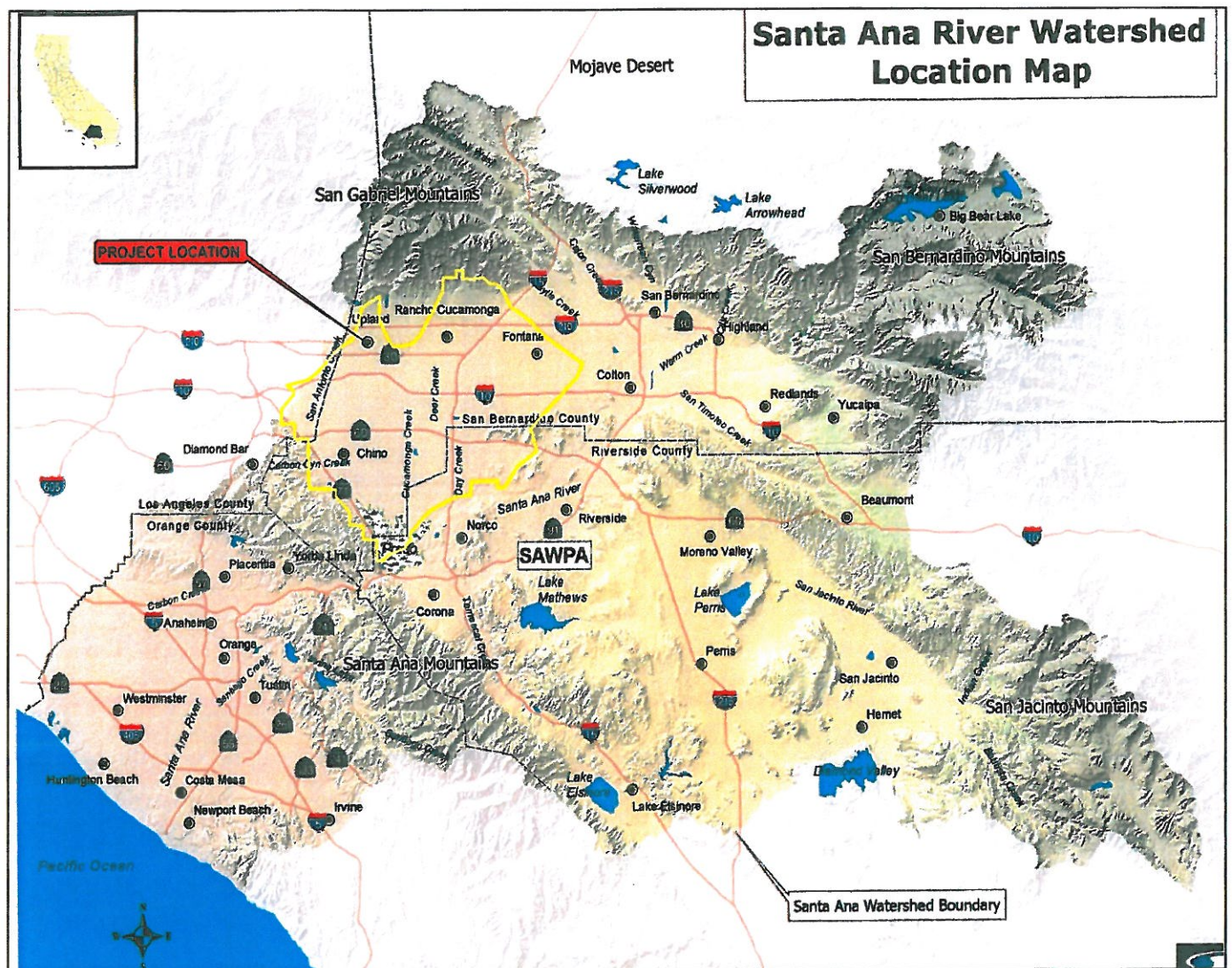
frequency events based on a tributary area of 520 acres, with the addition of the proposed project the tributary area will be reduced by approximately 220 acres.

The 8th St. Basin is owned and operated by the County of San Bernardino Flood Control District, according to District staff the 8th Street Basin cannot handle large storm events (100-year storm frequency events) and has requested that the City explores the possibility of reducing the amount of rainstorm flows to the 8th Street basin by constructing additional basins upstream of the existing 8th St. Basin.

The proposed 14th St. Basin project will reduce the tributary area by approximately 220 acres reducing the amount of flows to the 8th St. Basin.

In addition by allowing storm flows to be captured and conveyed much higher in the aquifer (Chino Basin) the water quality is improved by increasing the quality of the water that enters the aquifer. The additional rainstorm flows into Chino Basin will reduce the salt content that currently exists within the Chino Basin and is a benefit to the region.





NOTICE TO CONTRACTORS

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

ALL CONTRACTOR AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR AND WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS". THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTOR OR SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

SURVEY MONUMENT NOTE:

SURVEY MONUMENTS THAT EXIST AS SHOWN ON RECORDED MAPS, HIGHWAY MAPS OR POINTS THAT PROVIDE SURVEY CONTROL WITHIN THE CONSTRUCTION AREA SHALL BE LOCATED AND REFERENCED OUT BY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER (AUTHORIZED TO PRACTICE LAND SURVEYING), AND CORNER RECORDS SHALL BE FILED WITH THE COUNTY SURVEYOR PRIOR TO THE START OF CONSTRUCTION. THESE CORNER RECORDS SHALL DESCRIBE THE MONUMENTS FOUND WITH THE DISTANCES TO REFERENCE POINTS FOR RESETTling OF THE SURVEY MONUMENT. WHEN CONSTRUCTION IS COMPLETED, MONUMENTS SHALL BE SET AND CORNER RECORDS SHALL BE FILED WITH THE COUNTY SURVEYOR SHOWING THE NEW MONUMENTS.

CONTRACTOR'S RESPONSIBILITY FOR SAFETY:

IN SUBMITTING A BID FOR THIS WORK, THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, THE ENGINEER AND THE CITY OF UPLAND HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER, THE ENGINEER, OR THE CITY OF UPLAND.

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT THE EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR AND WITH "CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTOR OR SUBCONTRACTOR'S COMPLIANCE WITH SAID REGULATION AND ORDERS.

ENGINEER'S NOTICE TO CONTRACTOR:

THE EXISTENCE AND APPROXIMATE LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE OTHER EXISTING UTILITIES OR STRUCTURES THAT MAY NOT BE SHOWN ON THESE PLANS. SPECIFICALLY, NOT ALL UNDERGROUND ELECTRICAL AND COMMUNICATIONS UTILITIES WERE LOCATED ON MOUNTAIN AVE, 14TH STREET, AND BENSON AVE. AND ARE THEREFORE NOT SHOWN ON THE PLANS. THE ENGINEER ASSUMES NO LIABILITY AS TO THE EXACT LOCATION OF SAID LINES NOR FOR UTILITIES OR IRRIGATION LINES WHOSE LOCATIONS ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK ON EXCAVATION TO DETERMINE EXACT LOCATION OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION OF THESE LINES.

THE CONTRACTOR SHALL MAKE A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (U.S.A.) PHONE 1-800-227-2600 TWO WORKING DAYS PRIOR TO DIGGING. NO CONSTRUCTION PERMIT, ISSUED BY THE PUBLIC WORKS DEPARTMENT, SHALL BE VALID INVOLVING UNDERGROUND FACILITIES AND UNLESS THE APPLICANT HAS AN INQUIRY IDENTIFICATION NUMBER ISSUED BY THE U.S.A.

BASIS OF BEARINGS:

SAN BERNARDINO COUNTY GRID VALUES OF 357-28-05
BETWEEN SAN BERNARDINO COUNTY'S GPS POINTS 21797
AND 21800. GRID VALUES ARE REDUCED TO GROUND VALUES
BY APPLYING THE MEAN COMBINATION FACTOR OF POINTS 21797
AND 21800 (0.99993044362) TO ALL VALUES, HOLDING 21797
AS POINT OF ORIGIN, ALL POINTS WERE THEN ROTATED TO HOLD
THE GRID AZIMUTH BASIS.

SHEET INDEX

DRAWING No. SHEET No. DESCRIPTION

C-001	1	TITLE SHEET
C-002	2	NOTES
C-101	3	14TH ST PLAN & PROFILE -
C-102	4	14TH ST PLAN & PROFILE -
C-103	5	14TH ST PLAN & PROFILE -
C-104	6	NEW BASIN GRADING PLAN
C-105	7	NEW BASIN LAYOUT (ENLARGED)
C-106	8	NEW BASIN LAYOUT (ENLARGED)
C-107	9	NEW BASIN LAYOUT (ENLARGED)
C-108	10	DEMOLISH PLAN
C-109	11	BENSON AVE PLAN AND PROFILE - STA 10+00 - STA 20+00
C-110	12	BENSON AVENUE PLAN AND PROFILE LINE A, B, C AND LINE D
C-111	13	MOUNTAIN AVE PLAN AND PROFILE LINE E & F
C-501	14	CIVIL DETAILS
C-502	15	CIVIL DETAILS
C-503	16	STRUCTURAL DETAILS
C-504	17	STRUCTURAL DETAILS
C-505	18	STRUCTURAL DETAILS



BENCH MARK NO. BM9F-86

ELEV.

REVISIONS

MARK	DATE	INITIAL	DESCRIPTION	DATE	APPROVED



AECOM

AECOM Technical Services, Inc.
1501 QUAIL ST
Newport Beach, CA 92658-9020
PHONE (949) 476-3300
FAX (949) 721-7141

DRAWN BY:

DESIGNED BY:

CHECKED BY:

RECOMMENDED BY:

REVIEWED BY CITY STAFF

DEPARTMENT

PUBLIC WORKS (OPER.)

PUBLIC WORKS (ENV.)

PUBLIC WORKS (WATER)

PUBLIC WORKS (TRAF.)

FIRE DEPT.

APPROVED BY:

DATE

PUBLIC WORKS DIRECTOR / CITY ENGINEER

R.C.E. 53362 EXP. DATE 8/30/11

RECOMMENDED BY:

RECOMMENDED BY:

ENGINEERING STAFF

DEVELOPMENT SERVICES

14TH STREET WATER QUALITY REGIONAL FACILITY

TITLE SHEET

STORM DRAIN DWG NO.

G-001

SHEET

1 of 18 SHEETS

DRAWING NO.

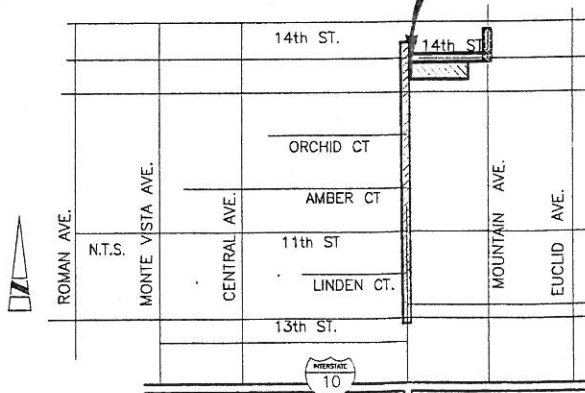
PROJECT: XXXX

PLAN NO: W-XXXX

CITY OF UPLAND 14TH STREET WATER QUALITY REGIONAL FACILITY PROJECT NO. XXX



PROJECT SITE



LOCATION MAP

NTS

AGENCY CONTACT LIST:

SAN ANTONIO WATER COMPANY

139 N EUCLID AVE
UPLAND, CA 91786
OFFICE: (909) 982-4107
CONTACT: CHARLES MOORREES

CITY OF UPLAND WATER DEPARTMENT

1370 N BENSON AVE
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OFFICE: (909) 291-2945
CONTACT: MARK F. WILEY

AT&T

22311 BROOKHURST ST, SUITE 203
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POMONA, CA 91766-5432
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CONTACT: FERNANDO BENAVIDES

CITY OF UPLAND

ENGINEERING DEPARTMENT
1370 N BENSON AVE
UPLAND, CA 91786
OFFICE: (909) 291-2946
CONTACT: BOB CRITCHFIELD, PE

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1981 W LUGONIA AVE
REDLANDS, CA 92374-9796
OFFICE: (909) 335-7871
CONTACT: JAMER LUNA
PO BOX 3993, SCB031
REDLANDS, CA 92373

TIME WARNER CABLE

1500 AUTO CENTER DRIVE
ONTARIO, CA 91761
OFFICE: (909) 975-3342
CONTACT: PAUL CYR

PACIFIC BELL

27402 CAMINO CAPISTRANO, ROOM 105
LAGUNA HIGUEL, CA 92677
OFFICE: (949) 855-5091
CONTACT: SANDY WALTER

OWNER

CITY OF UPLAND
1370 N BENSON AVE
UPLAND, CA 91786
OFFICE: (909) 291-2946
CONTACT: BOB CRITCHFIELD, PE

SOILS ENGINEER

REPORT PREPARATION:

CONVERSE CONSULTANTS
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REDLANDS, CA 92374
OFFICE: (909) 796-0544
CONTACT: HASHMI S.E. QUAZI, PH.D., G.E.

COMPACTION TESTING:

ROGER A. SHERVINGTON, P.E., INC
332 E. RADCLIFFE DRIVE
CLAREMONT, CA 91711-2834
(909) 214-4835

SOUTHERN CALIFORNIA EDISON:

DONN HAEFELE
(909) 430-8430

SPRINT:

LYNN DYRETT
(909) 873-8022

ABBREVIATIONS:

APWA	= AMERICAN PUBLIC WORKS ASSOCIATION
AVE	= AVENUE
BER	= BEGINNING OF CURB RETURN
BEG	= BEGIN
BLVD	= BOULEVARD
BVC	= BEGINNING VERTICAL CURVE
CAB	= CONCRETE AGGREGATE BASE
CB	= CATCH BASIN
CFS	= CUBIC FEET PER SECOND
CAG	= CURB AND GUTTER
CT	= COURT
C	= CENTERLINE
DEP	= DEPRESSION
DWY	= DRIVEWAY
EA	= EACH
EDR	= END OF CURB RETURN
EG	= EXISTING GRADE
EVC	= END VERTICAL CURB
EXIST	= EXISTING
FG	= FINISH GRADE
FL	= FIRE HYDRANT
FL	= FLOW LINE
FPS	= FEET PER SECOND
FS	= FINISH SURFACE
GB	= GRADE BREAK
GV	= GAS VALVE
HGL	= HYDRAULIC GRADE LINE
HWY	= HIGHWAY
INT	= INTERSECTION
INV	= INVERT
JS	= JUNCTION STRUCTURE
LAT	= LATERAL
LF	= LINEAR FEET
LOC	= LOCAL
MAN ST	= MANHOLE STRUCTURE
MVC	= MIDDLE VERTICAL CURVE
PCC	= PORTLAND CONCRETE CEMENT
PP	= POWER POLE
PM	= POINT OF VERTICAL INTERSECTION
Q ₁₀₀	= ONE HUNDRED YEAR STORMFLOW
RCP	= REINFORCED CONCRETE PIPE
R.O.W.	= RIGHT OF WAY
SD	= STORM DRAIN
SF	= SQUARE FEET
ST	= STREET
STA	= STATION
TO	= TOP OF CURB
TELECOM	= TELECOMMUNICATION
TN	= TON
TS	= TRANSITION STRUCTURE
TYP	= TYPICAL
VAR	= VARIES
VC	= VERTICAL CURB
VEL	= VELOCITY
VW	= VAULTS/VALVES
WM	= WATER METER OR WATER MAIN ON UTILITY LINE WORK
WV	= WATER VALVE

LEGENDS:

	POWER POLE
	STREET LIGHT
	WATER VALVE
	FIRE HYDRANT
	WATER METER
	0.15"-THICK GRIND AND OVERLAY
	REMOVED AND REPAVED AC PAVEMENT AND AGGREGATE BASE
	WM12 WATER LINE (SIZE AS NOTED)
	SS8 SANITARY SEWER (SIZE AS NOTED)
	G4 NATURAL GAS (SIZE AS NOTED)
	FO FIBER OPTIC
	CTV CABLE TELEVISION
	IRR IRRIGATION (SIZE AS NOTED)
	E ELECTRICAL
	T TELEPHONE/COMMUNICATION

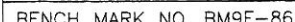
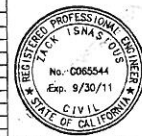
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USER: longez

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| 14-70 | 14-86 | F4-141 | F4-169 |
| F4-179 | S-5 | S-6 | T-5 |
| T-6 | U-5 | U-6 | |
| 16-24 | F4-T5-1 | F6-92 | F6-178 |
| F6-188 | F6-196 | F6-197 | F6-368 |
| F6-764 | I23-19 | I5-14 | I5-16 |
| I9-20 | I10-1 | S199-06 | |

- ① CONSTRUCT 24" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- ② CONSTRUCT 30" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- ③ CONSTRUCT 36" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- ④ CONSTRUCT 42" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- ⑤ CONSTRUCT 66" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- ⑥ CONSTRUCT 84" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- ⑦ CONSTRUCT REINFORCED CONCRETE PLUG PER DETAIL 2 ON DWG C-502.
- ⑧ CONSTRUCT CURB OPENING CATCH BASIN PER SPPWC 300-3.
- ⑨ CONSTRUCT LOCAL DEPRESSION AT CATCH BASIN PER SPPWC 313-3, H = 2".
- ⑩ CONSTRUCT MANHOLE PER SPPWC 320-2.
- ⑪ CONSTRUCT MANHOLE PER SPPWC 322-2.
- ⑫ CONSTRUCT MANHOLE SHAFT SAFETY LEDGE PER SPPWC 330-2.
- ⑬ CONSTRUCT JUNCTION STRUCTURE PER SPPWC 331-3.
- ⑭ CONSTRUCT CONCRETE COLLAR PER SPPWC 380-4.
- ⑮ CONSTRUCT JUNCTION STRUCTURE PER SPPWC 340-2.
- ⑯ EXIST 4" WATER (ABANDONED).
- ⑰ CONSTRUCT 18" X 9" CONC. OUTLET PER DETAIL 2 ON SHT 14.
- ⑱ EXIST 16" WATER TO BE REMOVED PRIOR TO CONTRUCTION.
- ⑲ CONSTRUCT ENERGY DISSIPATOR - IMPACT BASIN W/ VERTICAL BAFFLE WALL SPPWC STD DWG. 302-2. WIDTH (W) PER PLAN.
- ⑳ CONSTRUCT 24" R.C.P. SEE PROFILE FOR D-LOAD.
- ㉑ CONSTRUCT 1 FT WIDE CONCRETE LINED SWALE PER DETAIL C-206 ON SHT NO. 17.
- ㉒ INSTALL "NO DUMPING" STENCIL MESSAGE AS REQUIRED BY PUBLIC WORKS ENVIRONMENTAL DIVISION.
- ㉓ CONSTRUCT JUNCTION STRUCTURE PER SPPWC 332-2.
- ㉔ CONSTRUCT NEW CURB AND GUTTER, MATCH IN-KIND.

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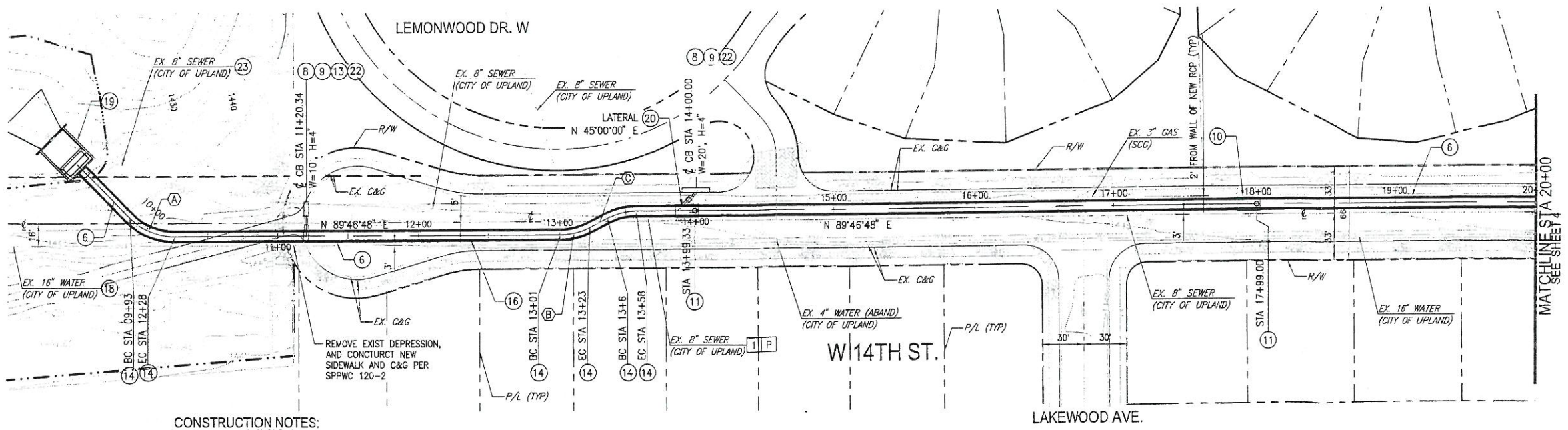
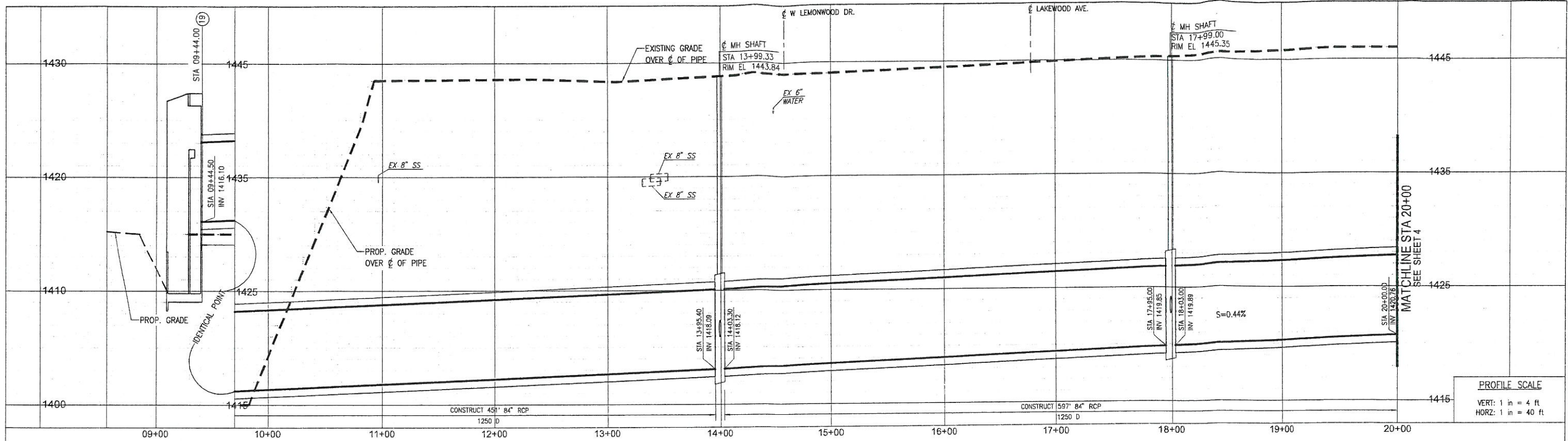
AECOM Technical Services, Inc.
1501 QUAIL ST
Newport Beach, CA 92658-9020
PHONE (949) 476-3300
FAX (949) 721-7141

DRAWN BY:		REVIEWED BY CITY STAFF		
DESIGNED BY: E. LONG		DEPARTMENT	INITIAL	DATE
CHECKED BY: Z. ISANIOUS		PUBLIC WORKS (OPER.)		
		PUBLIC WORKS (ENV.)		
		PUBLIC WORKS (WATER)		
RECOMMENDED BY:		PUBLIC WORKS (TRAF.)		
		FIRE DEPT.		

APPROVED BY:			
PUBLIC WORKS DIRECTOR / CITY ENGINEER		DATE	
R.C.E. 53367 EXP. DATE 6/30/11			
RECOMMENDED BY:	RECOMMENDED BY:		
ENGINEERING STAFF	DEVELOPMENT SERVICES		

NOTES

STORM DRAIN DWG NO.	PROJECT:
G-002	
SHEET	
2 OF 18 SHEETS	
DRAWING NO.	



CONSTRUCTION NOTES:

- ⑥ CONSTRUCT 84" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
- ⑧ CONSTRUCT CURB OPENING CATCH BASIN PER SPPWC 300-3.
- ⑨ CONSTRUCT LOCAL DEPRESSION AT CATCH BASIN PER SPPWC 313-3, H = 2'.
- ⑩ CONSTRUCT MANHOLE PER SPPWC 320-2.
- ⑪ CONSTRUCT MANHOLE PER SPPWC 322-2.
- ⑬ CONSTRUCT JUNCTION STRUCTURE PER SPPWC 331-3.
- ⑭ CONSTRUCT CONCRETE COLLAR PER SPPWC 380-4.
- ⑮ EXIST 4" WATER (ABANDONED).
- ⑯ EXIST 16" WATER TO BE REMOVED PRIOR TO CONSTRUCTION.
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- ⑲ CONSTRUCT 24" R.C.P. SEE PROFILE FOR D-LOAD.
- ⑳ INSTALL "NO DUMPING" STENCIL MESSAGE AS REQUIRED BY PUBLIC WORKS ENVIRONMENTAL DIVISION.
- ㉓ CONSTRUCT JUNCTION STRUCTURE PER SPPWC 332-2.

DISPOSITION NOTES

- ① PROTECT IN PLACE
- ② POTHOLE EXISTING CROSSING UTILITIES AND REPORT FINDINGS TO ENGINEER AT LEAST 14 DAYS PRIOR TO TRENCH EXCAVATION.

PIPE CURVE DATA				
CURVE #	DELTA	RADIUS	LENGTH	BEARING OF CHORD
(A)	45°00'00"	45'	35.34'	N67°44'23"W
(B)	27°19'19"	45'	21.46'	N76°07'08"E
(C)	27°18'08"	45'	21.44'	N76°06'33"E

IMPORTANT NOTICE
 Section 0118-0017 of the Government Code
 requires that the City of Newport Beach
 provide a public works service alert
 for any excavation work.
 CALL 311 FOR MORE INFORMATION
 1-800-227-2600

BENCH MARK NO. BM9F-86

MARK	DATE	INITIAL	DESCRIPTION	DATE	APPROV



AECOM
 AECOM Technical Services, Inc.
 1501 QUAIL ST
 Newport Beach, CA 92658-9020
 PHONE (949) 476-3300
 FAX (949) 721-7141

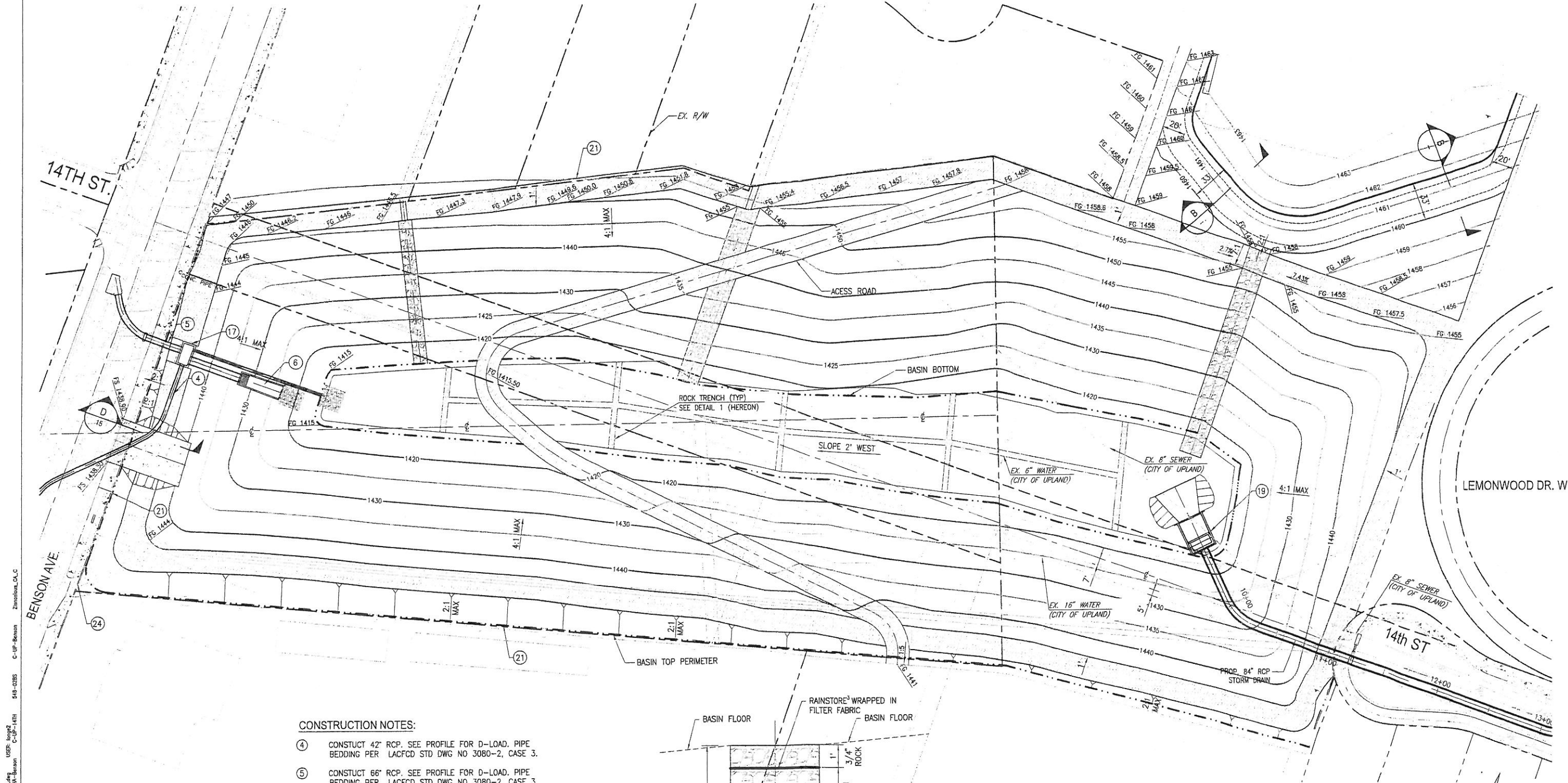
DRAWN BY:	DESIGNED BY:	CHECKED BY:	RECOMMENDED BY:
	E. LONG	Z. IGNACIUS	

REVIEWED BY CITY STAFF	APPROVED BY:
DEPARTMENT: PUBLIC WORKS (OPER.)	DATE:
PUBLIC WORKS (ENV.)	
PUBLIC WORKS (WATER)	
PUBLIC WORKS (TRAF.)	
FIRE DEPT.	

14TH STREET WATER QUALITY REGIONAL FACILITY
 14TH ST
 PLAN AND PROFILE
 STA 09+44.50 - STA 20+00

STORM DRAIN DWG NO. C-101
 SHEET 3 OF 18 SHEETS
 DRAWING NO.

USER: bmg2
 C:\Users\bm2\Documents\14th St Water Quality Regional Facility.dwg
 DATE: 06/05/2011 8:50am
 PROJECT: 14TH STREET WATER QUALITY REGIONAL FACILITY
 PLAN NO: W-XXXX



CONSTRUCTION NOTES:

- ④ CONSTRUCT 42" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- ⑤ CONSTRUCT 66" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- ⑥ CONSTRUCT 84" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- ⑦ CONSTRUCT 18' X 9' CONC. OUTLET PER DETAIL 2 ON SHT 14.
- ⑨ CONSTRUCT ENERGY DISSIPATOR - IMPACT BASIN W/ VERTICAL BAFFLE WALL SPPWC STD DWG. 302-2. WIDTH (W) PER PLAN.
- ⑩ CONSTRUCT 24" R.C.P. SEE PROFILE FOR D-LOAD.
- ⑪ CONSTRUCT 1 FT WIDE CONCRETE LINED SWALE PER DETAIL C-206 ON SHT NO. 17.
- ⑭ CONSTRUCT NEW CURB AND GUTTER, MATCH IN-KIND.

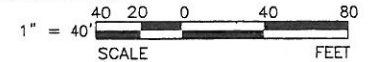
ROCK TRENCH DETAIL 1

SCALE: NTS

DITCH DRAIN SECTION B

SCALE: NTS

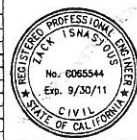
GRAPHIC SCALE:



BENCH MARK NO. BM9F-86

ELEV.

REVISIONS				
MARK	DATE	INITIAL	DESCRIPTION	DATE



AECOM

AECOM Technical Services, Inc.
1501 QUAIL ST
Newport Beach, CA 92658-9020
PHONE (949) 476-3300
FAX (949) 721-7141

DESIGNED BY: E. LONG	REVIEWED BY CITY STAFF	APPROVED BY:
CHECKED BY: Z. ISAKHOS	DEPARTMENT: PUBLIC WORKS (OPER.)	DATE:
RECOMMENDED BY:	PUBLIC WORKS (ENV.)	PUBLIC WORKS DIRECTOR / CITY ENGINEER
	PUBLIC WORKS (WATER)	R.C.E. 53382 EXP. DATE 6/30/11
	PUBLIC WORKS (TRAF.)	RECOMMENDED BY:
	FIRE DEPT.	RECOMMENDED BY:
		ENGINEERING STAFF
		DEVELOPMENT SERVICES

14TH STREET WATER QUALITY
REGIONAL FACILITY

NEW BASIN GRADING PLAN

STORM DRAIN DWG NO.
C-104

SHEET
6 of 18 SHEETS
DRAWING NO.

PROJECT: XXXX PLAN NO: W-XXXX

BENSON AVE.

EX. C&G

EX. SIDEWALK

REMOVE EXIST C&G, AND
SIDEWALK AS SHOWN

CONSTRUCTION NOTES:

- ④ CONSTRUCT 42" RCP. SEE PROFILE FOR D-LOAD. PIPE
- ⑤ CONSTRUCT 66" RCP. SEE PROFILE FOR D-LOAD. PIPE
- ⑥ CONSTRUCT 84" RCP. SEE PROFILE FOR D-LOAD. PIPE
BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
- ⑦ CONSTRUCT 18" X 9" CONC. OUTLET PER DETAIL 2 ON SHT 14.
- ⑪ CONSTRUCT 1 FT WIDE CONCRETE LINED SWALE PER DETAIL
C-206 ON SHT NO. 17.
- ⑭ CONSTRUCT NEW CURB AND GUTTER, MATCH IN-KIND.

NEW OVERFLOW STRUCTURE,
SEE DETAIL 1 ON SHT 17

EXIST FENCE/WALL



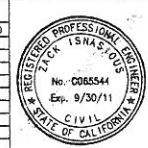
MATCHLINE
SEE SHEET 8

IMPORTANT NOTICE
Section 4118.4(1) of the Government Code
requires a Dig Alert notification
to be filed with the local utility
companies at least 14 days
before any excavation work
is begun. For more information
call 1-800-227-2600 or visit
www.digalert.ca.gov
TWO WORKING DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
1-800-227-2600

BENCH MARK NO. BM9F-86

ELEV.

REVISIONS				
MARK	DATE	INITIAL	DESCRIPTION	APP'D



AECOM
AECOM Technical Services, Inc.
1501 QUAIL ST
Newport Beach, CA 92658-9020
PHONE (949) 476-3300
FAX (949) 721-7141

DRAWN BY:	REVIEWED BY CITY STAFF
DESIGNED BY: E. LONG	DEPARTMENT: INITIAL: DATE:
CHECKED BY: Z. ISENHAUS	PUBLIC WORKS (OPER.)
RECOMMENDED BY:	PUBLIC WORKS (ENV.)
	PUBLIC WORKS (WATER)
	PUBLIC WORKS (TRAF.)
	FIRE DEPT.

APPROVED BY:	RECOMMENDED BY:
PUBLIC WORKS DIRECTOR / CITY ENGINEER	RECOMMENDED BY:
R.C.E. 53382 EXP. DATE 8/30/11	
ENGINEERING STAFF	DEVELOPMENT SERVICES

14TH STREET WATER QUALITY
REGIONAL FACILITY

NEW BASIN LAYOUT (ENLARGED)

STORM DRAIN DWG NO.
C-105
SHEET
7 of 18 SHEETS
DRAWING NO.

PROJECT: XXXX PLAN NO: W-XXXX

CONSTRUCTION NOTES:

N 8857.67
E 10538.09

N 8632.49
E 10309.95

②

1.9

ACCESS ROAD-

BASIN BOTTOM -

BASIN BOTTOM:

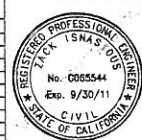
N 8956.34
E 10748.90

MATCHLINE
SEE SHEET 9



BENCH MARK NO. BM9F-86

ELEV.

[illegible]**AECOM**

AECOM Technical Services, Inc.
1501 QUAIL ST
Newport Beach, CA 92658-9020
PHONE (949) 476-3300
FAX (949) 721-7141

DRAWN BY:	REVIEWED BY CITY STAFF		
DESIGNED BY: E. LONG	DEPARTMENT PUBLIC WORKS (OPER.)	INITIAL	DATE
CHECKED BY: Z. ISANIOUS	PUBLIC WORKS (ENV.)		
RECOMMENDED BY:	PUBLIC WORKS (WATER)		
	PUBLIC WORKS (TRAF.)		
	FIRE DEPT.		

APPROVED BY: _____ DATE: _____

PUBLIC WORKS DIRECTOR / CITY ENGINEER
R.C.E. 53382 EXP. DATE 6/30/11

RECOMMENDED BY: _____

RECOMMENDED BY: _____

ENGINEERING STAFF _____ DEVELOPMENT SERVICES _____

14TH STREET WATER QUALITY
REGIONAL FACILITY

NEW BASIN LAYOUT (ENLARGED)

STORM DRAIN DWG NO.	PROJECT:
C-106	
SHEET	
8 of 18 SHEETS	
DRAWING NO.	
SD-XXX	

PROJECT: XXXX
PLAN NO: W-XXXX

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\\usnpa1p000\on-prd\Uploads\Cliver\60159017 14 SI 900 CUX 904 PlanSet\14TH ST\C-106.dwg
DATE: Apr 05, 2011 1:29pm XREFS: C-BD-14TH C-UP-14TH C-HA-14TH C-RP-14TH
USER: long2 548-02BS Zinniscus_CA_C

```


SEE SHEET 8
MATCHLINE

CONSTRUCTION NOTES:

- (6) CONSTRUCT 84" RCP. SEE PROFILE FOR D-LOAD, PIPE BEDDING PER LACFCD STD DWG NO 3080-2, CASE 3.
- (19) CONSTRUCT ENERGY DISSIPATOR - IMPACT BASIN W/ VERTICAL BAFFLE WALL SPPWC STD DWG. 302-2. WIDTH (W) PER PLAN.
- (21) CONSTRUCT 1 FT. WIDE CONCRETE LINED SWALE PER DETAIL C-206 ON SHT NO. 17.

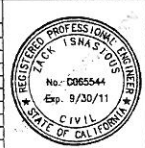
DWG: 14TH ST WATER QUALITY REGIONAL FACILITY NEW BASIN LAYOUT (ENLARGED)
DATE: Apr 05, 2011 12:17pm
USER: bmg2
PROJECT: C-107-14TH ST WATER QUALITY REGIONAL FACILITY
SHEET: 9 OF 18 SHEETS
DRAWING NO: SD-XXX



BENCH MARK NO. BM9F-86

ELEV.

REVISIONS				
MARK	DATE	INITIAL	DESCRIPTION	APPROV



AECOM
AECOM Technical Services, Inc.
1501 QUAIL ST
Newport Beach, CA 92658-9020
PHONE (949) 476-3300
FAX (949) 721-7141

DRAWN BY:	REVIEWED BY CITY STAFF
DESIGNED BY: E. LONG	DEPARTMENT: INITIAL DATE
CHECKED BY: Z. ISASIOUS	PUBLIC WORKS (OPER.)
RECOMMENDED BY:	PUBLIC WORKS (ENH.)
	PUBLIC WORKS (WATER)
	PUBLIC WORKS (TRAF.)
	FIRE DEPT.

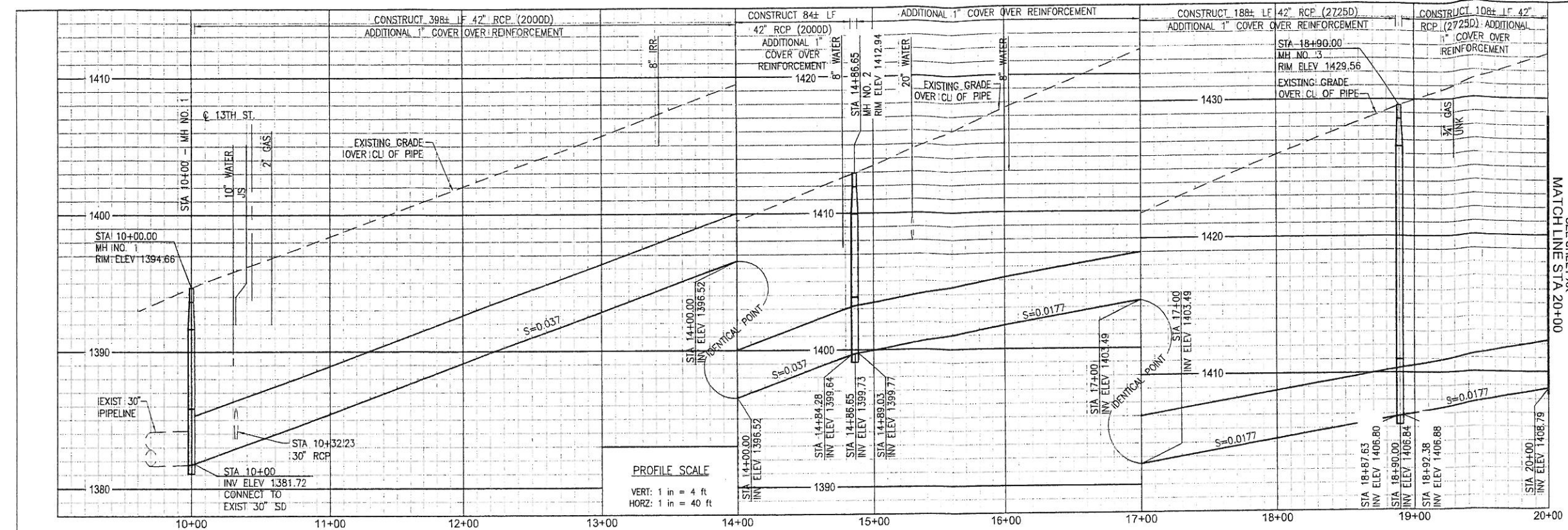
APPROVED BY:	RECOMMENDED BY:
PUBLIC WORKS DIRECTOR / CITY ENGINEER DATE: 8/30/11	
RECOMMENDED BY:	RECOMMENDED BY:
ENGINEERING STAFF	DEVELOPMENT SERVICES

14TH STREET WATER QUALITY
REGIONAL FACILITY

NEW BASIN LAYOUT (ENLARGED)

STORM DRAIN DWG NO.
C-107
SHEET
9 OF 18 SHEETS
DRAWING NO.
SD-XXX

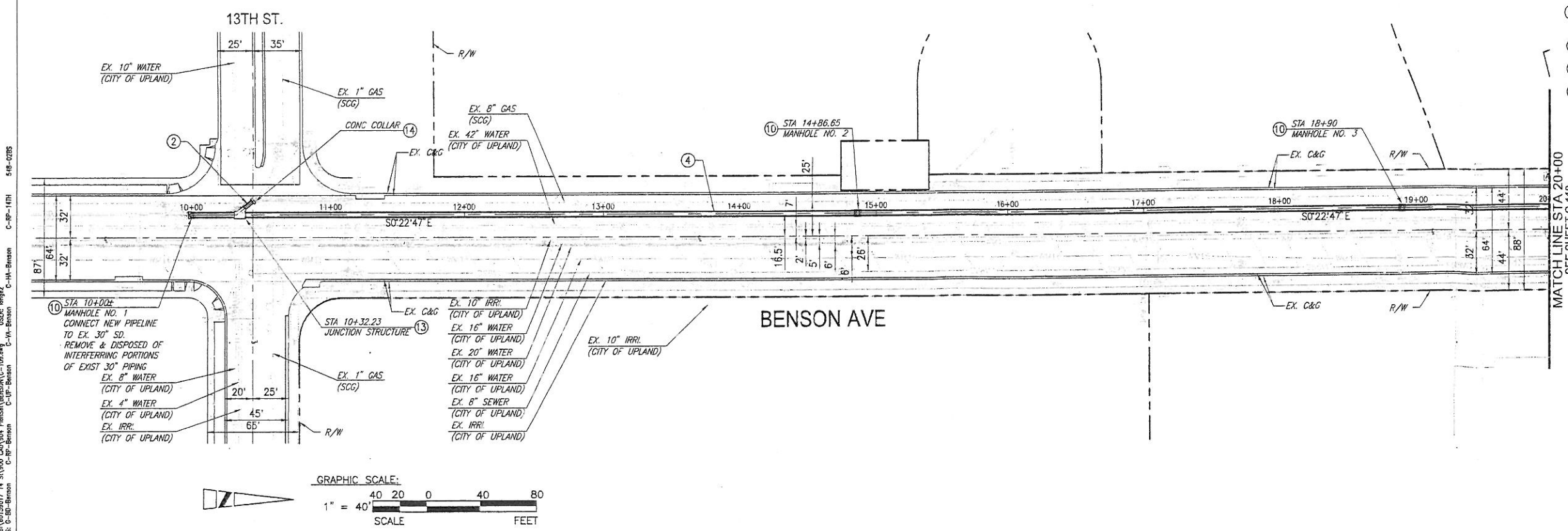
PROJECT: 14TH ST WATER QUALITY REGIONAL FACILITY
PLAN NO: W-XXXX



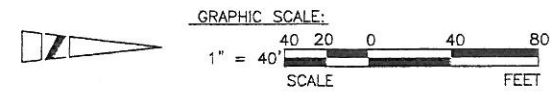
MATCH LINE STA 20+00
SEE SHEET XX

CONSTRUCTION NOTES:

- ② CONSTRUCT 30" RCP. 2250D PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3. (LENGTH = 9FT±)
- ④ CONSTRUCT 42" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
- ⑩ CONSTRUCT MANHOLE PER SPPWC 320-2.
- ⑬ CONSTRUCT JUNCTION STRUCTURE PER SPPWC 331-3.
- ⑭ CONSTRUCT CONCRETE COLLAR PER SPPWC 380-4.

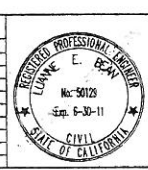


MATCH LINE STA 20+00
SEE SHEET C-110



IMPORTANT NOTICE
Section 4716-411 of the Government Code requires a 10-day advance notification to the City of Upland for any excavation work. Failure to comply may result in fines and penalties. For more information, call 1-800-227-2600.

MARK	DATE	INITIAL	DESCRIPTION	DATE	APPROV



AECOM
AECOM USA, INC.
1131 WEST SIXTH STREET, SUITE 350
ONTARIO, CA 91762
PHONE (909) 933-5225

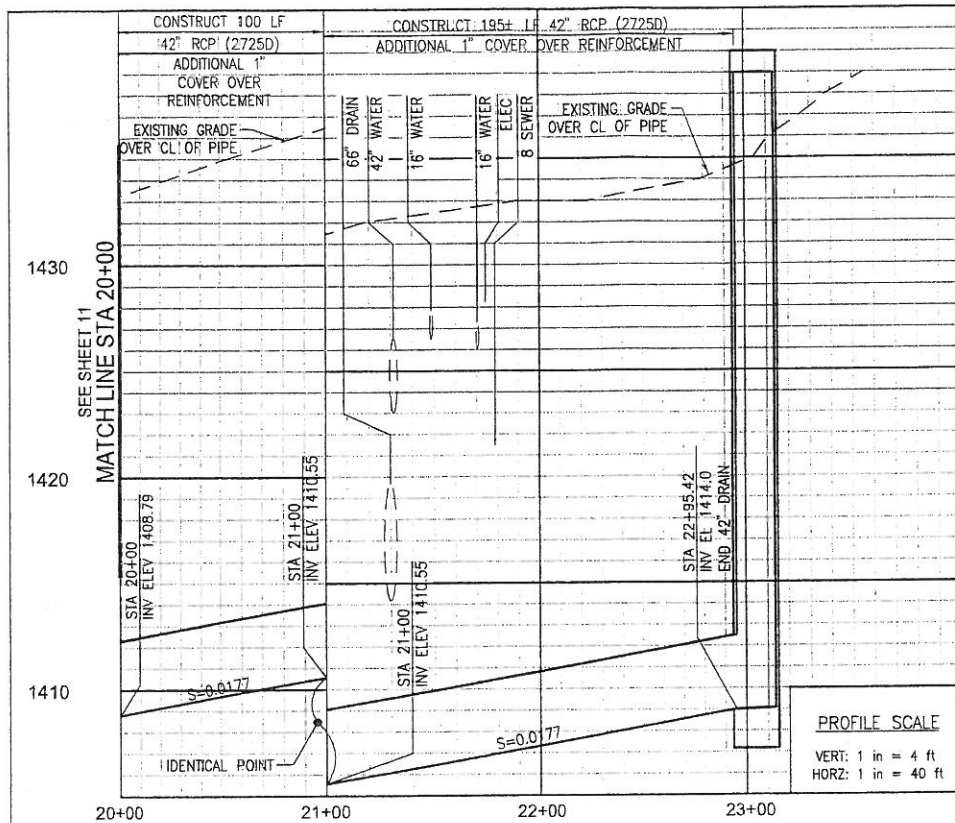
DESIGNED BY: E. LONG	REVIEWED BY CITY STAFF DEPARTMENT: PUBLIC WORKS (OPER.) INITIAL: DATE: PUBLIC WORKS (ENV.): PUBLIC WORKS (WATER): PUBLIC WORKS (TRAF.): FIRE DEPT.	APPROVED BY: PUBLIC WORKS DIRECTOR / CITY ENGINEER R.C.E. 53382 EXP. DATE: 8/30/11 RECOMMENDED BY: ENGINEERING STAFF	RECOMMENDED BY: DEVELOPMENT SERVICES
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14TH STREET WATER QUALITY REGIONAL FACILITY
BENSON AVE
PLAN AND PROFILE
STA 10+00 - STA 20+00

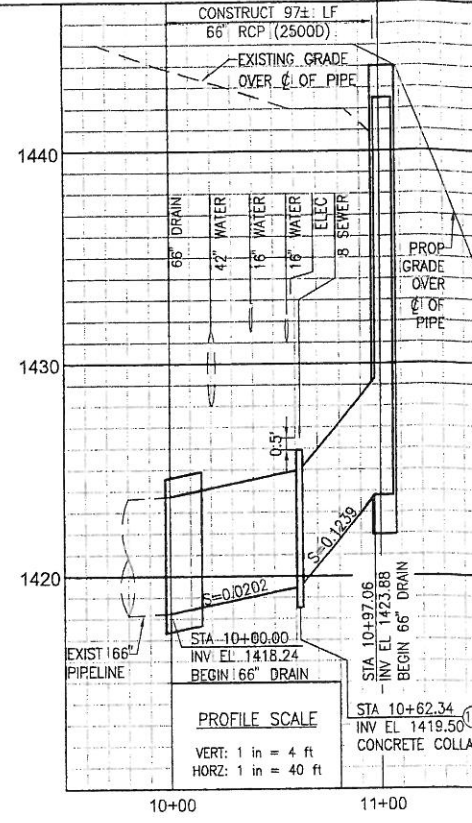
STORM DRAIN Dwg NO. C-109
SHEET
11 of 18 SHEETS
DRAWING NO. SD-XXX

DWG. DATE: 04/05/2011 08:12am
PROJECT: 14TH STREET WATER QUALITY REGIONAL FACILITY
SHEET: 11 of 18
CITY OF UPLAND
C-109-0205

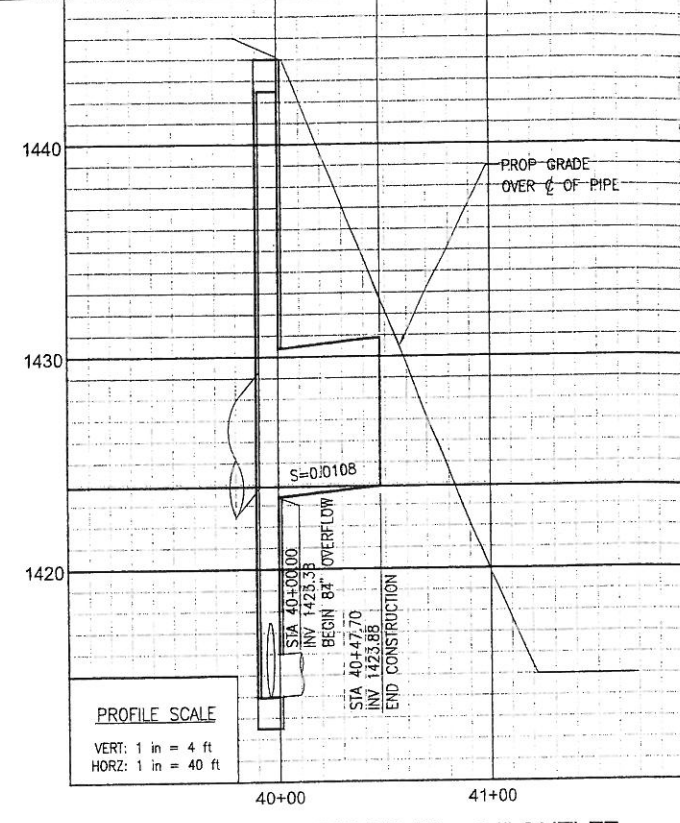
PLAN NO: W-7018
PROJECT: 7018



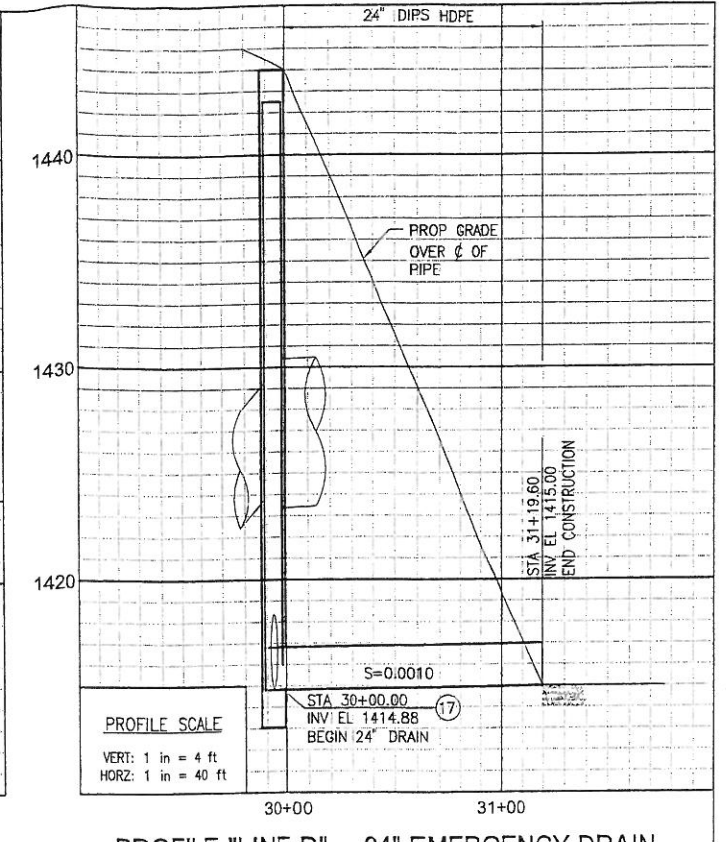
PROFILE "LINE B" - 42" OUTLET



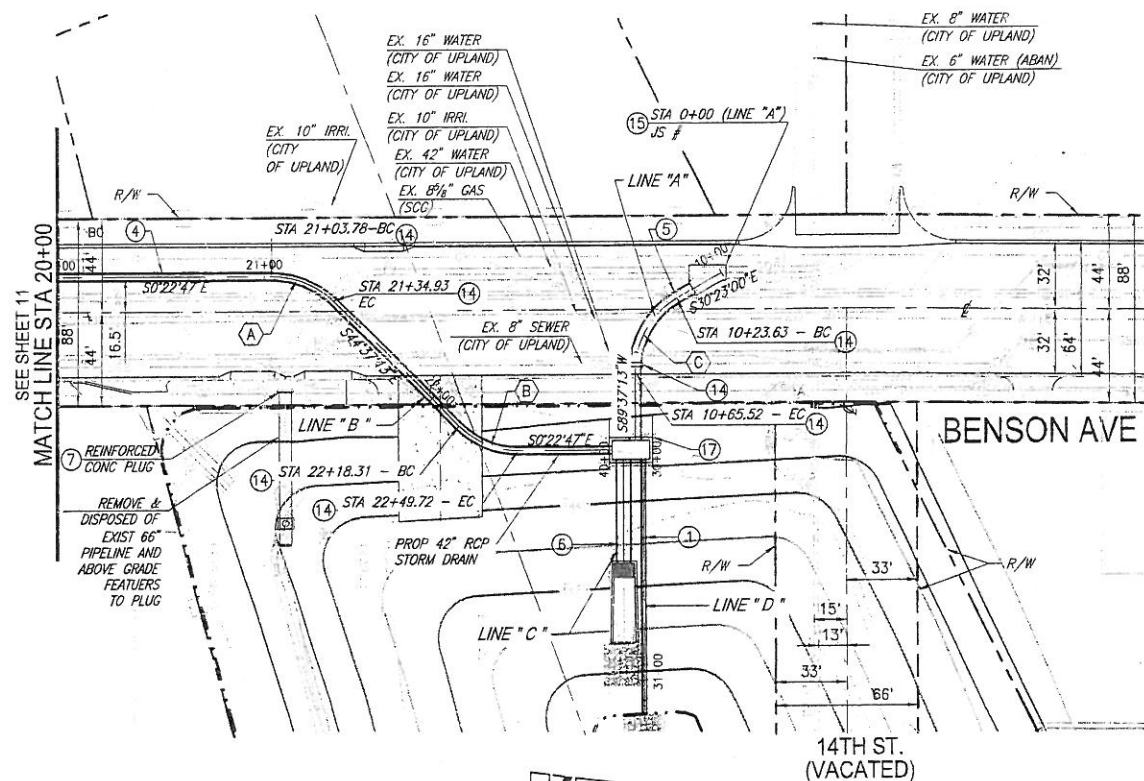
PROFILE "LINE A" - 66" OUTLET



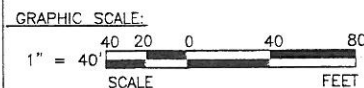
PROFILE "LINE C" - 84" OUTLET



PROFILE "LINE D" - 24" EMERGENCY DRAIN



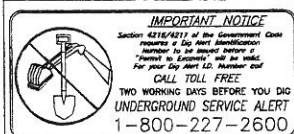
PIPE CURVE DATA				
CURVE #	DELTA	RADIUS	LENGTH	TANGENT
(A)	45°00'00"	40.00'	31.42'	16.57'
(B)	40°00'00"	40.00'	31.42'	16.57'
(C)	60°00'00"	40.00'	41.89'	23.09'



PLAN
SCALE: 1"=40'

CONSTRUCTION NOTES:

- ① CONSTRUCT 24" HDPE, DIPS 80 PSI. PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
- ④ CONSTRUCT 42" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
- ⑤ CONSTRUCT 66" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
- ⑥ CONSTRUCT 84" RCP. SEE PROFILE FOR D-LOAD. PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
- ⑦ CONSTRUCT REINFORCED CONCRETE PLUG PER DETAIL 1 ON DWG C-505.
- ⑭ CONSTRUCT CONCRETE COLLAR PER SPPWC 380-4.
- ⑮ CONSTRUCT JUNCTION STRUCTURE PER SPPWC 340-2.
- ⑰ CONSTRUCT 18' X 9' CONC. OUTLET PER DETAIL 2 ON DWG C-501.



REVISIONS				
MARK	DATE	INITIAL	DESCRIPTION	DATE



AECOM

AECOM USA, INC.
1131 WEST SIXTH STREET, SUITE 350
ONTARIO, CA 91762
PHONE (909) 933-5225

DRAWN BY:
DESIGNED BY: E. LONG
CHECKED BY: L. BEAN
RECOMMENDED BY:

REVIEWED BY CITY STAFF
DEPARTMENT: PUBLIC WORKS (OPER.)
PUBLIC WORKS (ENV.)
PUBLIC WORKS (WATER)
PUBLIC WORKS (TRAF.)
FIRE DEPT.

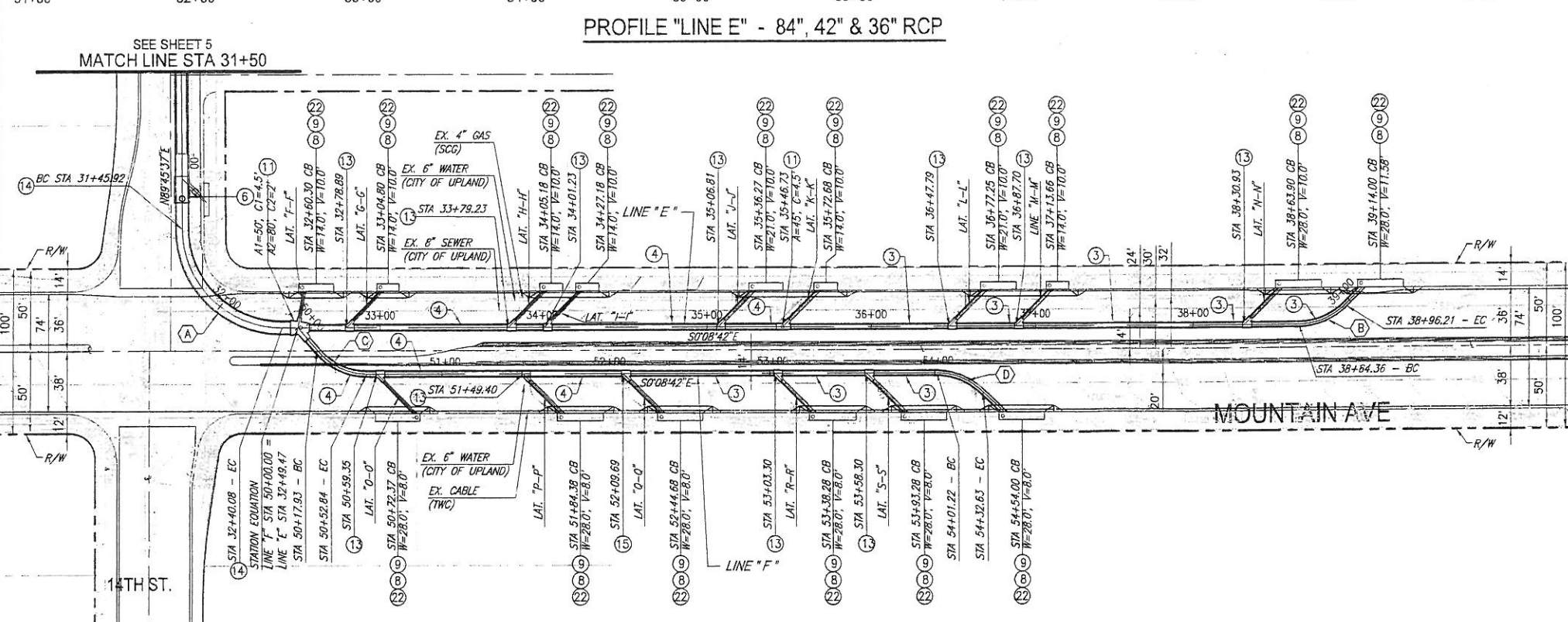
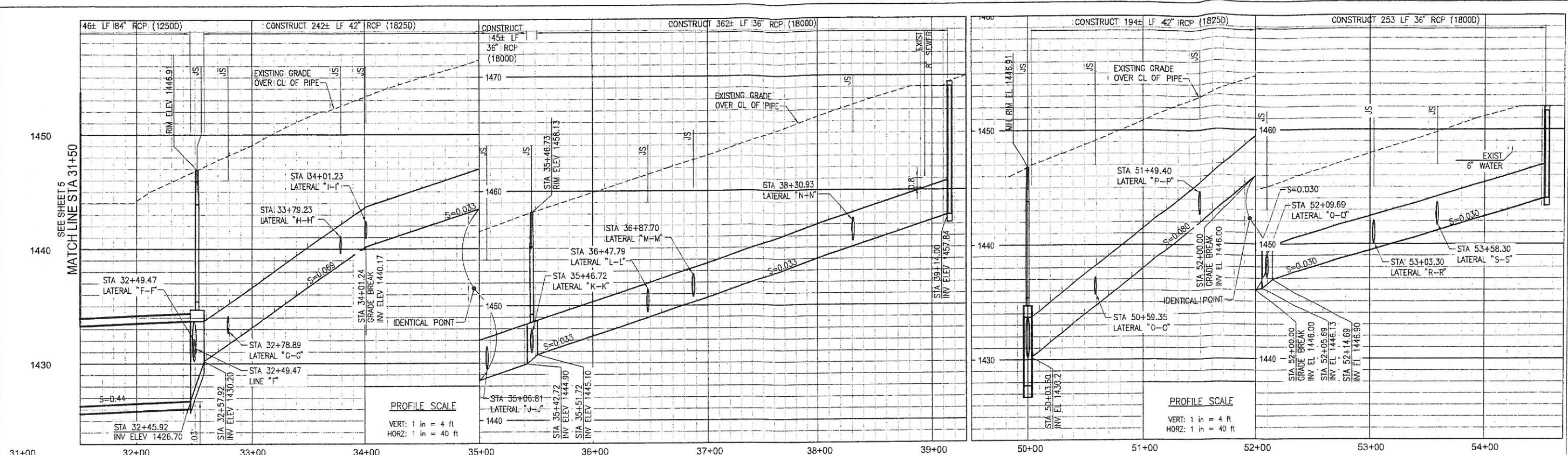
APPROVED BY:
PUBLIC WORKS DIRECTOR / CITY ENGINEER
R.C.E. 53382 EXP. DATE 6/30/11
RECOMMENDED BY:
ENGINEERING STAFF

RECOMMENDED BY:
DEVELOPMENT SERVICES

14TH STREET WATER QUALITY
REGIONAL FACILITY
BENSON AVENUE
PLAN AND PROFILE
LINE A, B, C AND LINE D

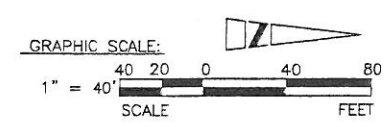
STORM DRAIN DWG NO: C-110
SHEET
12 OF 18 SHEETS
DRAWING NO: SD-XXX

PLAN NO: W-7018



- CONSTRUCTION NOTES:**
- 3. CONSTRUCT 36" RCP. SEE PROFILE FOR D-LOAD, PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
 - 4. CONSTRUCT 42" RCP. SEE PROFILE FOR D-LOAD, PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
 - 6. CONSTRUCT 84" RCP. SEE PROFILE FOR D-LOAD, PIPE BEDDING PER LACFD STD DWG NO 3080-2, CASE 3.
 - 8. CONSTRUCT CURB OPENING CATCH BASIN PER SPPWC 300-3.
 - 9. CONSTRUCT LOCAL DEPRESSION AT CATCH BASIN PER SPPWC 313-3, H = 2".
 - 11. CONSTRUCT MANHOLE PER SPPWC 322-2.
 - 13. CONSTRUCT JUNCTION STRUCTURE PER SPPWC 331-3.
 - 14. CONSTRUCT CONCRETE COLLAR PER SPPWC 380-4.
 - 15. CONSTRUCT JUNCTION STRUCTURE PER SPPWC 340-2.
 - 22. INSTALL "NO DUMPING" STENCIL MESSAGE AS REQUIRED BY PUBLIC WORKS ENVIRONMENTAL DIVISION.

PIPE CURVE DATA				
CURVE #	DELTA	RADIUS	LENGTH	TANGENT
A	89°49'53"	60'	94.16'	60.00'
B	45°08'41"	45'	31.42'	16.57'
C	50°00'00"	40'	34.81'	18.65'
D	44°51'19"	40'	31.32'	16.57'



IMPORTANT NOTICE
Section 4112/4113 of the Government Code requires a 14-day advance notice to be given to the public before any excavation work is performed. This notice must be given to the public at least 14 days before the work begins. Call toll free 1-800-227-2600 for more information.

REVISIONS				
MARK	DATE	INITIAL	DESCRIPTION	APP'D



AECOM
AECOM USA, INC.
1131 WEST SIXTH STREET, SUITE 350
ONTARIO, CA 91762
PHONE (909) 933-5225

DESIGNED BY: E. LONG	REVIEWED BY CITY STAFF	APPROVED BY:
CHECKED BY: L. BEAN	DEPARTMENT: PUBLIC WORKS (OPR.)	PUBLIC WORKS DIRECTOR / CITY ENGINEER
RECOMMENDED BY:	PUBLIC WORKS (ENR.)	RECOMMENDED BY:
	PUBLIC WORKS (WTR.)	
	PUBLIC WORKS (TRAF.)	
	PUBLIC DEPT.	ENGINEERING STAFF
		DEVELOPMENT SERVICES

14TH STREET WATER QUALITY REGIONAL FACILITY

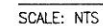
MOUNTAIN AVE
PLAN AND PROFILE
LINE E & F

STORM DRAIN DWG NO. C-111

SHEET 13 OF 18 SHEETS

DRAWING NO. SD-XXX





(M-113)

